

OPTICAL ELEMENT, MANUFACTURE THEREOF AND PACKAGING THEREOF

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Abstract

PURPOSE: To conform sufficiently the position of diffracted light to the position of a photodetector by a method wherein in an optical element of a structure, wherein reflected light is received by the photodetector using a diffraction means consisting of a periodic diffraction grating region and an optical system having an astigmatism generating means, a surface emitting type semiconductor laser is used and the laser and the photodetector are formed in the same substrate.

CONSTITUTION: A substrate 301 provided with a light-emitting part 120 using a surface emitting type semiconductor laser and detection parts 121 having the same mechanism as that of the light-emitting part 120, which are built in the same substrate, is die bonded in the center of a package 302 using a brazing metal having an electrical conductivity. Then, lead pins in the package and the light-emitting part 120 and lead pins in the package and the respective electrode patterns of the detection parts 121 are respectively connected to each other by Au wires and a cap 34 is bonded on the package 302 in a nitrogen atmosphere. The position of a hologram substrate 305 formed by forming a plurality of diffraction regions on a glass substrate is adjusted while the light-emitting part and the detection parts are made to drive and the substrate 305 is bonded on the cap 304, whereby an optical element is formed. The packaging accuracy of the optical element is high and a method of packaging the optical element is simple.

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